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A DISCUSSION OF THE HIGH INCIDENCE OF TUBERCULOSIS OF BOVINE-TYPE INFECTION IN MAN IN BANFFSHIRE

BY

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INTRODUCTION

In London in 1901 Koch made the momentous statement that human and bovine tubercle are distinct, one from the other, and not cross-infective. He based this conclusion upon inoculation experiments with cattle and pigs which indicated that " human tuberculosis differs from bovine and cannot be transmitted to cattle." He went beyond this. " Though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided and will not admit of absolute decision to-day or to-morrow, one is nevertheless already at liberty to say, that if such a susceptibility really exists, the infection of human beings is a very rare occurrence. I should estimate the extent of infection by the milk and flesh of tuberculous cattle, and the butter made from their milk, as hardly greater than that of hereditary transmission and I therefore do not deem it advisable to take any measure against it."

As a direct result of this pronouncement a Royal Commission carried on extensive investigations for nine years. Unfortunately, Koch's statement instantly paralysed all efforts in this country to eradicate tuberculosis from herds and no further action was taken until after the publication of the Report of the Royal Commission in 1911. The work of the Commission and other investigations confirmed, up to a point, Koch's contention that human tuberculosis cannot be transmitted to cattle. That is to say, it showed that cattle are refractory to the human organism but demonstrated that generalised tuberculosis could be produced in calves by the inoculation of large doses. Disease, due to the human organism, the Commission thought, did not occur naturally. Koch's view has been modified still further within recent years. Workers have reported that suspensions of lymphatic gland tissue from so-called " no lesion " reactors have caused tuberculosis when inoculated into guinea-pigs and that cultures gave human-type organisms. Plum (1937) in South Sweden reports actual lesions in the mesenteric glands due to human-type tubercle. Ritchie (1944), summing up the position, said that in cattle, infection with human tuberculosis does not, usually, progress to cause lesions though it might sensitise to tuberculin.

The Commission showed that Koch gravely underestimated the danger of bovine infection to man. In spite of this, a tendency has continued to underestimate the risk of bovine tuberculosis and the view has been advanced, and indeed is still held by some, that infection with bovine tubercle bacilli may be beneficial by immunising against respiratory tuberculosis of human origin. Cobbett (1917), for instance, speaking of the decline of human tuberculosis over a period of years (1910 to 1917), stated that great care should be taken " lest things be made worse instead of better; for if this general immunisation by means of small doses of widely distributed bacilli is playing any important part in increasing the resistance of the present generation, it is just possible that by checking the distribution of bacilli, as for example by discouraging indiscriminate spitting or by abolishing bovine tuberculosis from dairy cattle, we may actually be undermining the resistance of the race." Yet, whatever the effect may be of small doses of bovine tubercle, widely dispersed and repeatedly consumed in milk, on resistance to tubercle infection, no possible scientific sanction can be given to a method of immunisation practised in such a haphazard, unmeasured, uncontrolled fashion, and which, indeed, kills about 2,000 children each year and cripples many thousands more. In fact, not only is Koch's contention that the bovine type of tubercle is not infective to man untrue, but recent investigations have shown that in addition to childhood tuberculosis of bovine origin, bovine infection is often responsible for human phthisis. Taking Scotland as a whole, nearly one-third of all deaths from non-pulmonary tuberculosis and 11 per cent. of pulmonary tuberculosis in adults are due to the bovine organism (Wilson, 1942).

Sigurdsson (1945) has recorded that, up to 1940, 8·2 per cent. of 30,650 type determinations of tuberculosis in humans showed the bovine type of organism. In Scandinavia, where a great deal of typing of tubercle infection has been carried out, it was shown that 46·2 per cent. of gland tuberculosis, 23·4 per cent. of tuberculous meningitis and 5·3 per cent. of pulmonary tuberculosis was due to the bovine type of organism.

Ritchie (1949) admirably states the position up to that year and shows that at that time Banffshire was one of the counties showing least response to the drive to clear up their herds. He also stated that 19·3 per cent. of all the cattle in Great Britain were in tubercle-free herds.

Tuberculosis of bovine origin in man has been the subject of a recent valuable contribution by Francis (1947).

THE INCIDENCE OF BOVINE-TYPE INFECTION IN MAN

GENERAL

There have been few extensive surveys of the incidence of bovine-type infection in man. For many years the only indications of incidence came from *post-mortem* examinations. In some, the infecting organisms from relatively small samples of hospital patients have been typed. The indications from both classes of investigation are similar. In the former mortality, and in the latter morbidity at the hospital level, are measured only in relation to total tuberculosis mortality and morbidity. There is no means to estimate satisfactorily the total morbidity from bovine tuberculosis for there can be no doubt that a large number of cases are never recognised or notified as such.

Detailed studies of samples of different populations show great differences. In Europe, the incidence appears to be low in Finland, France and Italy; it is also extremely low in Australia and New Zealand. It is relatively high in Germany and appears to be still higher in Denmark and

Holland, which give data comparable with those for the United Kingdom. Illustrative examples are quoted below.

Pikkarainen (1938) reported investigations in Finland in which only 0·1 per cent. of the cattle reacted to the tuberculin test in 1938 compared with 2·4 per cent. in 1936. He typed 140 strains from human cases of tuberculosis, including 58 strains from children under 15 years of age. All were found to be of the human type. In France, Rocher and Laporte (1938) reported that in an enquiry into the incidence of bovine-type infection in man, only two out of 89 cases yielded bovine-type organisms and Saenz (1938) found bovine-type infection in only 26 out of 1,199 cases of tuberculosis of various sites. In Italy, Ross (1937) found only one bovine-type infection in 147 cases investigated in Bologne, while Petragnani (1939) found only four bovine infections in 564 cases studied in Rome. Holmes (1937) states that tuberculosis mortality in children in Australia is low, probably the lowest in the world, but that morbidity form tuberculous tonsillitis and adenitis is considerable. James (1937) says that human infection with the bovine type of organism is very rare in New Zealand.

Figures for the proportion of bovine tuberculosis in cases of human non-pulmonary disease for Germany and Denmark are quoted in Table I. These suggest that the incidence of non-pulmonary tuberculosis of bovine origin in Germany is not high, but Goeters (1936), investigating 118 cases of pulmonary tuberculosis, found bovine-type infection in six, of whom four were farm workers. This represents a relatively high incidence as will be seen from Table II. In addition to the Danish figures quoted in Table I, Mourier (1936) describes 33 cases of human pulmonary tuberculosis of bovine origin in Denmark of which 30 habitually drank raw milk; 29 were subject to the possibility of direct transmission of infection from cattle and one might have been infected by another human subject. In Holland, Ruys (1939) found that 9 per cent. of cases of pulmonary tuberculosis in children under 15 years of age were due to organisms of the bovine type. In large towns 1 per cent. of adults with pulmonary tuberculosis and 6 per cent. of rural cases were of bovine origin. Other forms of tuberculosis in both urban and rural areas were caused by the bovine organism in 20 per cent. of cases. This supports the earlier observations of Van der Hoeden (1937), who found 8 per cent. of cases of tuberculosis at Utrecht University Hospital to be due to the bovine organism. Of 34 patients 29 were from rural areas. In Poland, Piasecka-Zeyland (1937) typed 160 strains of tubercle bacilli from patients in Poznan and found eleven of bovine type. Of 31 samples of milk bought in the open market in Poznan nine contained *M. tuberculosis*.

In the United States the incidence of bovine infection in man is believed to be universally low and less than 10 per cent. of the total tuberculosis morbidity.

It is a striking fact that in Burma (Cummins, 1939) and India (Banerjea, 1944) bovine tuberculosis is almost unknown.

Great Britain and Banffshire Compared

It is accepted that about 2,000 children die each year in England and Wales from tuberculosis of bovine origin. Each year, too, many thousands more—how many will probably never be accurately known—suffer and are disfigured or crippled from infection with bovine tubercle.

In Table I non-pulmonary tuberculosis of bovine origin is shown as a percentage of the total. Scotland is compared with England and Wales, Germany and Denmark.

Table I

(Smith, quoted by McKay, 1941)

Percentage Incidence of Bovine Infection in Cases of Human Non-Pulmonary Tuberculosis

Type of tuberculosis	England (Griffith)	Scotland (Griffith)	Germany (Lange)	Denmark (Jensen)
	Per cent. bovine	Per cent. bovine	Per cent. bovine	Per cent. bovine
Cervical adenitis	50·0	51·6	22·3	49·0
Bone and joint	19·5	29·8	4·6	18·5
Genito-urinary	17·4	31·0	0·0	—
Lupus	48·7	69·2	24·3	—
Meningitis	24·6	29·2	0·0	24·7
Autopsies	22·5	32·4	9·4	—
Miscellaneous	8·7	71·4	—	—
Abdominal	—	—	32·7	—

It will be seen that, except for cervical adenitis, the percentage incidence of bovine infection in Scotland is significantly higher than in England and Wales or Denmark and that all three countries compare unfavourably with Germany.

According to the most recent investigations, 35 to 40 per cent. of non-pulmonary tuberculosis in the North-East, including Banffshire, is due to bovine infection (Smith, private communication).

The available statistics for the incidence of bovine infection in human pulmonary tuberculosis are shown in the following Table II.

Table II

(Griffith & Munro, 1944)

Percentage Incidence of Bovine Infection in Cases of Human Pulmonary Tuberculosis

Author	Region	No. of cases	Eugonic human	Dysgonic human	Bovine	Percentage bovine
	England, Wales and Eire					
Cumming	North	888	874	—	14	1·5
Lynn and Cutbill	Middle	1,000	977	1	22	2·2
Lynn and Cutbill	Middle	315	305	—	10	3·1
Griffith and Menton	Middle	230	228	—	2	0·8
Griffith	South	694	684	6	4	0·5
Pagel	South	100	99	—	1	1·0
Cumming	South	195	194	—	1	0·5
Cumming	Various parts (selected)	245	224	—	21	0·8
Cumming	Various parts (selected)	Unspecified (4 +)	—	—	4	2·0
Cumming	Wales	203	201	—	2	2·0
Cumming	Eire	320	320	—	—	—
		4,194	4,106	7	81	1·9
	Scotland					
Griffith and Wang	Edinburgh, Glasgow and Lanark (early cases)	102	100	—	2	2·0
Griffith and Smith	N.E. Counties Aberdeen City	540 432	468 399	23 14	49 19	9·1 4·4
Griffith and Munro	Middle and South	515	476	8	31	6·0
	Additional	15	14	—	1	6·6
	East	1,165	1,107	—	58	5·0
		2,769	2,564	45	160	5·7

Discussing the distribution of bovine cases, Griffith and Munro (1944) stated that they occurred in decreasing frequency from the North of Scotland to the South of England. No case was found by Cumming in Eire. The Orkneys gave the highest proportion, namely, 25·8 per cent., then the country districts of North-East Scotland with 9·1 per cent., the rest of Scotland following with about 5·2 per cent. The North Midland Region of England comes next with just under 2 per cent. Cumming, Page and Griffith found 1 per cent. or less in the South-East and South of England and in Wales to be of bovine origin. In an earlier paper Griffith and Smith (1940) gave the following table showing in greater detail the results of an investigation into the incidence of human pulmonary tuberculosis of bovine origin in the North-East of Scotland.

TABLE III

(Griffith & Smith, 1940)

REGIONAL DISTRIBUTION OF PULMONARY TUBERCULOSIS DUE TO THE DIFFERENT TYPES OF TUBERCLE BACILLI

Region	No. of cases	Types of tubercle bacilli			
		Eugonic human	Dysgonic human	Bovine	
Aberdeenshire	222	189	13	20	(9·0%)
Banffshire	91	79	1	11	(12·1%)
Morayshire	66	58	2	6	(9·2%)
Kincardineshire	40	39	—	1	(2·5%)
Caithness	15	12	1	2	(13·3%)
Sutherland	2	2	—	—	
Inverness-shire	5	5	—	—	
Nairnshire	5	5	—	—	
Orkneys	31	19	4	8	(25·8%)
Shetland	63	60	2	1	(1·6%)
Total country districts	540	468	23	49	(9·1%)
City of Aberdeen	432	399	14	19	(4·4%)
Total	972	867	37	68	(7·0%)

In Banffshire, it will be noted, a high percentage of the cases, 12·1, were due to infection by the bovine type of organism. If it be accepted that at least 35 per cent. of the non-pulmonary and 12 per cent. of the pulmonary cases are of bovine origin, the total tuberculosis mortality due to bovine infection in Banffshire may be estimated. From the annual reports of the Medical Officer of Health for the county, the numbers of deaths from tuberculosis during the five-year period 1938 to 1942 were 65 pulmonary and 33 non-pulmonary, giving a presumptive mortality from bovine infection of at least 19 or nearly 20 per cent. of the total tuberculosis mortality.

Before going further it must be pointed out that total tuberculosis mortality in Banffshire and, in fact, total mortality per million of the population in that county is well below the averages for both Scotland and England and Wales. The figures for 1937 from the reports of the Registrars General give the picture shown in the table reproduced at the top of the next column.

Hence it is only the bovine component and, in comparison with Scotland as a whole, only the bovine pulmonary component of tuberculosis mortality in Banffshire that shows an excess.

TUBERCULOSIS MORTALITY IN BANFFSHIRE COMPARED WITH THAT IN SCOTLAND AND ENGLAND AND WALES
Crude rates per million of the population, 1937

	Banffshire	Scotland	England and Wales
Total tuberculosis mortality	480	740	695
Pulmonary. Total	370	560	584
Per cent. bovine	12·1	5·4	1·4
Total bovine	45	30	8
Non-pulmonary. Total ...	110	180	111
Per cent. bovine	40·0*	29·0	27·8
Total bovine	44	52	31
Total bovine	89	82	39
Bovine mortality, per cent. of total	18·5	11·1	5·6

* Taken as the upper limit of the percentages for the area suggested by Smith (c.f. p. 384).

PROBABLE MODE OF INFECTION

The possible modes of infection of man by the bovine type of tubercle are: (*a*) from milk and milk products, (*b*) from infected meat, (*c*) from direct contact with cattle and (*d*) by direct transmission from one infected person to another, directly or through handling milk.

(*a*) *Infection from Milk.*—Tuberculous disease of the udder is of fairly common occurrence and is undoubtedly the commonest source of infection with bovine tubercle bacilli. In an earlier investigation into milk infection in Banffshire it was established (McKay, 1935) that, on the average, 10 per cent. of market milk supplies were infected with tubercle. It was also reported (McKay, 1941) that tuberculosis of the udder occurs in 0·4 per cent. of the dairy cow population of Banffshire. This is comparable with published figures for Staffordshire (Davidson, 1938) and the West Riding of Yorkshire (Rabagliati, 1931).

Stamp (1943) found lesions of tuberculosis in 44 per cent. of 27 udders from cows which were probably suffering from advanced tuberculosis.

Torrance (1936-37) reported 0·59 per cent. tuberculous udders in 24,500 cows.

An investigation by the Department of Health for Scotland (M.R.C., 1933) into the degree of infection of the milk supplies of the four largest Scottish cities gave the following results (Table IV).

TABLE IV

TUBERCLE IN MILK. RAW MILK IN CHURNS

Area	Positive	Negative	Inconclusive	Total	Per cent. positive
Aberdeen ...	33	294	7	334	9·9
Dundee	33	413	60	506	6·5
Edinburgh ...	39	281	16	336	11·6
Glasgow	48	292	18	358	13·4
	153	1,280	101	1,534	10·0

Table IVa shows the position in regard to tubercle infection in milk in the North-East of Scotland since 1945. It will be seen that tubercle infection in standard milk is still very high, while that in ordinary milk is much lower than in 1945, and the infection in all samples is reduced to half the previous rate.

TABLE IV (a)

BIOLOGICAL EXAMINATION OF MILK SAMPLES

Year	Total number of specimens	Number positive	Per cent. positive
Certified milk			
1945	13	—	—
1946	4	—	—
1947	3	—	—
1948	1	—	—
1949	1	—	—
Tuberculin tested milk			
1945	75	—	—
1946	64	1	1·56
1947	75	—	—
1948	16	—	—
1949	8	—	—
Standard milk			
1945	153	18	11·76
1946	161	15	9·31
1947	144	6	4·16
1948	104	9	8·65
1949	80	8	10·00
Ordinary milk			
1945	155	15	9·67
1946	169	16	9·46
1947	232	14	6·03
1948	159	12	7·54
1949	173	4	2·31
Heat treated milk			
1945	—	—	—
1946	2	1	50·00
1947	—	—	—
1948	1	—	—
1949	—	—	—
All samples			
1945	396	33	8·33
1946	400	33	8·25
1947	454	20	4·40
1948	281	21	7·47
1949	262	12	4·58

Banffshire as a whole, therefore, does not appear to have a higher incidence of tuberculosis of the udder than certain other areas in England nor a higher proportion of infected market milk supplies than the cities of Edinburgh and Glasgow, but it has got a higher incidence of both pulmonary and non-pulmonary tuberculosis of bovine origin than these other areas. If the excess is not attributable to market milk it must be due to consumption of milk and milk products on the farm or to a difference in the human associations with cattle.

With regard to infection from milk, other than fresh milk, it does not seem likely that dried milk, butter or cheese should be responsible for any part of the excess in Banffshire. In normal times little dried or condensed milk is used in the rural North of Scotland and in any case Dold and Garrat (1910) have shown that no viable tubercle bacilli could be recovered from full cream or machine skimmed sweetened condensed milk. Further, Hunwicke and Jephcott (1925) have shown that tubercle bacilli are killed when milk is dried by the hot roller process in common use. Live tubercle bacilli have frequently been found in butter, *e.g.*, after five months by Mohler, Washburn and Rogers (1908), but it seems unlikely that the part played by butter in the causation of human tuberculosis would be great. Cheese, too, has been shown to contain live tubercle bacilli for as long as 260 days.

(*b*) *Infection from Meat.*—There is practically no chance that infected meat is responsible for the excess of bovine infection in the North-East. With the two safeguards of meat inspection and the fact that meat is subjected to high temperature cooking before consumption, it is extremely unlikely that anyone, other than slaughtermen, could become infected from this source.

(*c*) *Infection by Direct Contact.*—At one time it was considered unlikely that direct infection should occur from contact with cattle, but recently Cutbill and Lynn (1944) in a series of 2,101 cases of tuberculosis in England showed that of 97 cattle contacts infection by direct contact was strongly suggested in 10 or 11 per cent.

(*d*) *Transmission from Person to Person.*—Griffith and Munro (1944) say that it would be surprising if such transmission did not occur, and give some evidence that it does. Cutbill and Lynn (1944) describe three families with pulmonary tuberculosis of bovine origin in which the primary infection was thought to be by contact with cattle, with subsequent transmission from one person to another within the family. Griffith and Smith (1935), investigating cases of bovine pulmonary tuberculosis in the North-East, pointed out the probability of transmission by personal contact in five cases.

Taking all the evidence, it seems likely that the rôle of milk, so often regarded as the sole danger, in the dissemination of bovine tuberculosis, may have been overstressed. The authorities quoted above urge that direct contact in cases of pulmonary tuberculosis cannot be ignored and the same would appear to be equally true of, say, abdominal bovine tuberculosis in children. It is difficult to escape the conclusion that transmission of abdominal tuberculosis may occur from person to person, especially in view of the very large proportion of Scottish rural houses which have no sanitary provision of any kind (Report of the Scottish Housing Advisory Committee, H.M.S.O., 1944).

THE RURAL POPULATION AND HERDS IN BANFFSHIRE

The population of Banffshire is approximately 55,000, of which about half are in the Landward area and may be assumed to be almost exclusively agricultural workers, while of the other half in urban areas a small proportion will be agricultural workers for at least some part of the year. In 1935, McKay showed that the county as a whole had a high consumption of milk as estimated from the cow strength of the dairy farms supplying milk to the urban areas.

The agricultural population consume large quantities of raw milk in their diet, of which milk and cereals form an important part. While the dairy farms are regularly inspected and rarely contain fewer than a dozen cows, the agricultural worker usually obtains his milk from the mixed yield of rarely more than three or four cows.

It is significant that of the requests by the Medical Officer of Health for the county to investigate the milk supply of cases of possible bovine infection during a period of ten years, all were from either small dairy farms with less than half a dozen cows or farms or crofts with rarely more than four milking cows.

Further, many instances have been noted where tuberculosis of the udder was discovered in a particular dairy herd, so that it was known that the milk supplied by this particular farm had been infective for some time, but if the herd was of any size no report of tuberculosis among children consuming milk from that dairy had ever been received.

In addition, cases have been reported of children developing tuberculosis, apparently of bovine origin, after spending holidays on farms, not dairy farms, in the county.

The Total Incidence of Tuberculosis in Banffshire

In 1939 the cattle population of the county was as follows:—

Cows in milk	10,239
Cows in calf but not in milk ...	1,014
Heifers in calf	793
Total female stock	12,046
Bulls	445
Other cattle	32,319
Total	44,800

Of the total cows, approximately 1,700 were dairy type and 10,300 beef type.

For the purpose of comparison the cattle population of the county as at June 3rd, 1950, is given as follows:—

County of Banff

Total cattle population as at June 3rd, 1950 ...	57,370
Number of cattle in attested herds at December 31st, 1950	4,840
Number of cattle in supervised herds at December 31st, 1950	319
Number of attested herds at December 31st, 1950	61

(*i.e.*, 45 designated, four non-designated, and 12 others).

Probable Total Number of Reactors.—It may be calculated from the figures in Table VI that a population of 1,700 dairy cows probably would give a total of 565 cows giving positive reactions to the tuberculin test. Similarly, the sample test in Table VIII suggests that, in a beef cow population of 10,300, a total of 2,160 reactors might be found.

The Clinical Incidence of Disease.—During four years, from the dairy cow population of 1,700, there were 92 cases and, from the beef cow population of 10,300, 193 cases. It appears, therefore, that the percentage incidence of clinical cases, 5 and 2, is more than twice as high in dairy cows as in beef cows.

Various factors influence the incidence of tuberculosis in cattle. The incidence is much higher in the herds where replacement is by purchase in the open market; in such herds 30 to 90 per cent. of cattle may be reactors to tuberculin as compared with only 2·8 per cent. in self-contained herds. The position is prejudiced further by the habit of putting calves to suckle cows with advanced disease of the udder.

Clinical records over four years gave 92 cases of tuberculosis in dairy cows averaging 1,700 head, or 5 per cent., and 193 cases in beef cows averaging 10,300, or 2 per cent. The clinical incidence of disease is much higher in females than in males and highest in dairy-type cows, especially those giving a high milk yield.

The clinical incidence of tuberculosis, at least in Banffshire, rises sharply after five years of age and is not higher in poorly housed than in well housed animals. The age of the herd appears to be more important than housing, as suggested by observations on four badly housed herds with a high incidence of clinical cases. Following replacement of the stock by young cows, without change in the housing, there has been no recurrence of the high morbidity up to four years after the change.

The Implications.—It was stated above that about half the population of Banffshire is in urban and half in rural areas. The milk supply of the urban half comes from the 1,700 dairy cows, with 565 reactors and 23 cases annually of clinical disease. The consumers of this milk supply will have little or no direct contact with cattle.

The rural half of the population will be supplied by milk produced mostly by beef type cows. Assuming, as is customary, that one cow will suckle two calves and that she will not be milked while suckling, and that the cows calve annually, the milk for human consumption will be supplied by approximately half the cow population. That represents 5,156 cows, with 1,080 reactors, and about 24 cases of clinical disease annually.

This means that, relatively to the population at risk, the rural area is exposed to about the same number of clinical cases and about twice the number of reactors, but, in addition, while the urban population has little or no direct contact with cattle, the rural population, of which the greater part is on beef farms, is exposed to direct contact with twice the number of clinical cases of disease found in dairy cows, and nearly four times the total number of reactors. Not only so, but the number of personnel employed on dairy farms is much larger, in relation to the number of cows, than on beef farms. Hence the degree of exposure, as measured by number of hours per person spent in cleaning and feeding, is much higher on beef farms. Since, too, the work on small farms is often done by the farmer himself or one cattleman, with the assistance or the frequent presence of children, the family exposure to direct contact is of very considerable intensity.

These considerations probably go far to explain the high incidence of bovine tuberculosis in the rural population in Banffshire, and in particular the repeated finding that most of the cases occur on small farms. Taken together with the observations on the indifference in regard to milk hygiene discussed later, they indicate that any other finding would be contrary to expectation.

Discussion

The relative incidence of human tuberculosis of bovine origin in Banffshire is high, 12·1 per cent. of all cases of pulmonary tuberculosis, and 35 to 40 per cent. of all cases of non-pulmonary tuberculosis. This indicates that the proportionate mortality from tuberculosis of bovine origin in Banffshire may be of the order of 20 per cent. of the total tuberculosis mortality, as compared with 11 per cent. for Scotland as a whole and 5·6 per cent. for England and Wales.

In urban areas the only significant source of bovine-type infection in man, apart from holidays spent on farms, is infected milk supplies. There is no doubt that infected milk is a most important vehicle of infection in rural areas also, and especially the milk produced on small farms for home consumption only. The special importance of small farms is indicated by the frequency with which requests for inspection of the milk supply to cases of tuberculosis, suspected or ascertained to be of bovine origin, have reference to such farms. It is explicable by the fact that such farms, unlike dairy farms, are not normally subject to routine veterinary inspection, so that udder tuberculosis may exist undetected for a long period.

Milk consumption in rural Banffshire is high. Milk is taken at least twice a day by all, with porridge in the morning and with oatcake at supper. It is drunk almost *ad libitum* by children at any time of the day. The population is altogether lacking in any appreciation of its dangers. Familiarity with cattle breeds contempt for the risk of communicable disease. The conservative view that what their forefathers survived they will survive also is

general. The following observation, made on several occasions when tubercle-infected milk was being traced, illustrates the contempt for warnings. At one visit to a particular farm a particular cow had been suspected, the position explained and the use of its milk prohibited. At the next visit the milk from the same cow has been sampled from the jug on the kitchen table, where it was for the use of the family.

Taking into account the high milk consumption and the large number of cows, relative to the population, supplying milk for immediate consumption on the farm, with the relatively large number (in spite of lower percentage incidence) of reactors and clinical cases of tuberculosis in beef herds, the conclusion seems inevitable that the risk of infection from milk is greater to the rural than to the urban population.

It is not possible to judge how much of the Banffshire excess of bovine tuberculosis is due to milk infection, but in view of the fact that the excess, in comparison with all Scotland, is entirely in pulmonary disease, the possibility that part at least is due to contact with infected cattle cannot be ignored. The cattle in this area are housed for six months of the year, mostly in small and ill-ventilated byres, and, although this does not appear to affect the incidence of infection in the cattle, it may greatly increase the risk to the persons working in close contact with them and to the children who frequent the byres. Direct infection by inhalation of dust containing dried sputum and dried faecal matter, or by contamination of hands and clothing, is not unlikely.

Finally, the possibility of direct transmission from person to person of pulmonary and intestinal tuberculosis of bovine origin must not be forgotten. This risk must be increased by the poor housing conditions and lack of sanitation.

Summary

Clinical and bacteriological surveys during the years 1935 to 1939 of the incidence of bovine-type infection in pulmonary tuberculosis in man in Great Britain have shown that the relative incidence is high in the North-East of Scotland. Banffshire with 12·1 per cent. is exceeded only by Caithness (13·3 per cent.) and the Orkney Islands (25·8 per cent.). The most recent data show that some 35 to 40 per cent. of human non-pulmonary tuberculosis in Banffshire is of bovine origin. From this it is estimated that nearly 20 per cent. of the total tuberculosis mortality in Banffshire is due to bovine-type infections.

The incidence of tubercle infection in samples of market milk in Banffshire was determined (McKay) in 1935 to be 10 per cent., a degree of infection which is not high in comparison with available data, *e.g.*, for raw milk supplies to the Scottish cities. But in Banffshire none of the milk is pasteurised, while, for instance, in Aberdeen City over 80 per cent. is heat treated.

The incidence of tuberculosis in dairy herds, as estimated from tuberculin tests on 1,007 animals of both sexes and all ages, is 30 per cent. It is relatively higher, 33 per cent., in dairy herds than in beef herds, 21 per cent., and higher in cows than in other stock. If only cows over three years of age be considered, the incidence of positive reactors is higher in beef herds, 47 per cent., than in dairy animals, 40 per cent.

The general incidence in dairy cows is 37·3 and in beef cows 28·9 per cent. This is less than Ritchie's estimate of the general incidence in cows for the country as a whole, namely, 40 per cent.

Abattoir records showed 17·3 per cent. of cattle slaughtered in Banffshire to be infected to some extent. Of those extensively infected a high proportion were cows.

A consideration of the data leads to the conclusion that, while the relative excess of bovine-type infection in man in Banffshire may be due partly to consumption of infected raw milk, direct contact with infected cattle and transmission from person to person must be considered.

Half the population of Banffshire is in the Landward areas, and mostly engaged in agriculture. It has repeatedly been observed that cases of tuberculosis in children, presumably of bovine origin, come most often from small dairy farms or small farms with fat stock where the milk supply is derived from a small number of cows.

Summing up the data, it is shown that the urban population of Banffshire, half the total population, derives its milk from about 1,700 dairy cows with 565 reactors and 23 clinical cases of tuberculosis annually. The milk is supplied untreated and about 10 per cent. of samples are infected. The urban population has little or no direct contact with cattle.

The rural population, which gives most of the suspected or ascertained cases of bovine tuberculosis, has milk presumably from about 5,150 cows with 1,080 reactors and about 24 clinical cases annually. In addition, there is contact with twice that number of reacting cattle and clinical cases, contact that is intimate and prolonged over half the year.

To combat the menace to health, certain measures might be taken at once, at least as interim measures until the Attested Herd scheme can be extended in Banffshire.

(1) More attention should be paid to farms keeping only one or two dairy cows for their own use and to the cows in beef herds supplying milk for home consumption. It is these, not the official dairy herds, that appear to be producing most human disease.

(2) The small farmer who is not interested in market milk production is also not interested in tuberculosis eradication and will not accept proposals for regular tuberculin testing. He will much more readily agree to replace his old cows by young. This would largely eliminate tuberculosis of the udder and if, in addition, such herds were maintained on a self-contained basis, this would go far to establishing herds that were at least not openly infective. In small herds of dairy cows also such a change would form a good basis on which, later, an attested herd could more readily be built up.

(3) Education of the rural community in the hygiene of milking and contact with animals, and in personal hygiene, is urgently needed, especially in view of the poor sanitation of both byres and houses.

Acknowledgments.—I am grateful to Dr. John Smith, Director of the City Hospital Laboratory, Aberdeen, and to Dr. D. A. Walker, Medical Officer of Health for Banffshire, for much helpful advice and to the latter and the Ministry of Agriculture and Fisheries for permission to publish much of the information given in this paper.

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MEDICAL DISCIPLINE

A new Medical Disciplinary Committee to deal with the cases of doctors accused of unprofessional conduct has been set up by the General Medical Council and met for the first time on Thursday of last week.

The Medical Act of 1950 reconstituted the General Medical Council and provided for disciplinary cases to be heard by a special committee and not by the whole of the Council as hitherto. The President of the General Medical Council, Dr David Campbell, has stated that except for the remnant of the old disciplinary cases reserved to the Council the transfer of cases to the Medical Disciplinary Committee was complete

"When the Council began to elect the Medical Disciplinary Committee," says *The Times*, "ten of the doctors present rose and said they objected to serving and asked that their names should be omitted from the ballot papers."

* * * * *

I.C.I. Film Library.—The following are amongst recent additions to this library; full details are obtainable from Bolton House, 61, Curzon Street, London, W.1: The Lymphatic System (Cat. No. M.25, running time 45 minutes, 16 mm. colour); Functions of Carotid Sinus and Aortic Nerve; Part I, Pressoreceptors (Cat. No. M.26, running time 38 minutes, 16 mm. colour); Part II, Chemoreceptors (Cat. No. M.27, running time 33 minutes, 16 mm. colour); Good Hay Hath no Fellow (Cat. No. A.8, running time 21 minutes, 16 mm. black and white).

THE VETERINARY RECORD
JUNE 2, 1951

THE EPIDEMIOLOGY OF HUMAN AND BOVINE TUBERCULOSIS

WE publish in this issue a paper by Dr. McKay on the relationship between bovine and human tuberculosis which appears to be the first study of its kind carried out in Great Britain. He shows that the incidence of bovine-type infection in cases of human pulmonary tuberculosis is 12·1 per cent. in Banffshire and 25·8 per cent. in the Orkney Isles. The evidence indicates that the incidence of tuberculosis of cattle in Banffshire is no greater than in many other parts of Great Britain. Half the total population of Banffshire is urban and receives its unpasteurised milk from about 1,700 dairy cows with approximately 33 per cent. reactors and 1·4 per cent. clinical cases annually. Most of the rural population have their milk from some 5,150 cows with about 20 per cent. reactors and about 0·5 per cent. clinical cases annually.

The percentage of bovine-type infection found in extrapulmonary tuberculosis in human beings in Banffshire is 35 to 40, which is about 1·5 times greater than that in England and Wales,[1] and the 12·1 per cent. bovine-type infection in pulmonary tuberculosis must be about six times the rate for England and Wales. It is unfortunate that McKay does not give precise figures of the incidence for the urban and rural halves of the human population but he states that most requests for a clinical examination of herds relate to very small family herds where one infective cow would cause heavy exposure. The families, including children, are exposed to heavy respiratory infection in the cowshed and this may be the reason for the high percentage of bovine-type infection in pulmonary tuberculosis in Banffshire and the much higher percentage in the Orkneys.

This tentative conclusion is supported by a number of admirable surveys carried out in the Scandinavian countries (see Francis, 1950) where it was shown that up to 40 per cent. of cases of pulmonary tuberculosis in human beings in country districts might be caused by bovine-type infection.

In a recent report[2] it was shown that only 26·3 per cent. of all cases of extrapulmonary tuberculosis examined in Great Britain were caused by the bovine-type bacillus. The Scandinavian work, which provides excellent evidence of direct respiratory infection from man to cattle, was quoted in the foregoing report but in discussing England and Wales it was stated that all patients infected with the bovine type may be assumed to have been infected from raw milk. It is stated that "between 1,300 and 1,400 persons (in England and Wales) died in 1944 from tuberculosis of bovine origin. It is submitted that probably none of these deaths would have occurred if the milk supply had been adequately pasteurised." The extension of pasteurisation is advocated repeatedly, a view with which we would not disagree, but it is surprising that there is no mention of the value of eradicating bovine tuberculosis. McKay's paper has indicated strongly that in Scotland as well as Scandinavia, direct infection from cow to man takes place and there is no reason to believe that

[1] FRANCIS, J. (1950.) *Lancet.* **i.** 34.
[2] *J. Hyg.* (Camb.) (1949.) **47.** 337.

(*Concluded at foot of col. 1, page 390*)

CLINICAL COMMUNICATION

THE USE OF "PHENERGAN" IN TOXAEMIA ASSOCIATED WITH ACUTE MASTITIS

G. LAMBIE AND W. K. ROSE, MS.R.C.V.S.,
CHEADLE, STAFFORDSHIRE

The following brief notes are based on the results obtained in the treatment of a number of cows suffering from acute mastitis which also exhibited symptoms of generalised toxaemia. Although only six case reports are included, they have been chosen as being representative of the others encountered and typical of the therapeutic success or otherwise obtained generally.

CASE 1. *Subject.*—A Shorthorn heifer newly calved and reported by the farmer as being a milk fever case. On examination the animal, which was recumbent, was observed to have a temperature of 106° F. Its pulse was rapid and thready. The right hind quarter was enlarged and, on being drawn, provided a yellow watery secretion. A bluish discoloration was noted round the base of the teat.

15 c.c. "Phenergan" intravenously and 20 c.c. staphylococcus toxoid intramuscularly were given. Six hours later the animal was standing and had eaten a mash. Temperature was 104° F., breathing almost normal and the general appearance was greatly improved. 10 c.c. "Phenergan" were administered intramuscularly. Further treatment consisted of 20 c.c. staphylococcus toxoid 48 hours later and 100,000 I.U. penicillin intramammary nightly for five nights, the quarter being fomented and repeatedly stripped out during the day.

Recovery was uneventful.

CASE 2. *Subject.*—Cow, three weeks off calving, with acute staphylococcal mastitis in one quarter and symptoms of general toxaemia. Treatment consisted of 100,000 I.U. penicillin intramammary and 15 c.c. "Phenergan" intramuscularly. Next day the cow was much brighter and eating. 10 c.c. "Phenergan" intramuscularly were then given and repeated 20 hours later. 100,000 I.U. penicillin were given once daily for five days.

Recovery was uneventful and on calving normal milk yield from the quarter was observed.

CASE 3. *Subject.*—Cow in milk with acute gangrenous mastitis in one quarter. This was treated with 20 c.c. staphylococcus toxoid repeated at intervals of 24 hours, 10 c.c. "Phenergan" being given simultaneously with the first two doses of toxoid. 100,000 I.U. penicillin intramammary once daily were also administered. No improvement was noted and the animal died on the fourth morning.

CASES 4 AND 5. *Subjects.*—Two cows, both being treated for acute *C. pyogenes* mastitis with symptoms of generalised toxaemia. Normal treatment with *C. pyogenes* toxoid and penicillin intramammary, together with formalin and nux vomica in therapeutic doses *t.i.d.*, had shown no beneficial effect. In each case 15 c.c. "Phenergan" were given intramuscularly, this being followed by an immediate and spectacular brightening of condition and a marked return of appetite.

Recovery was uneventful.

CASE 6. *Subject.*—Cow with acute *C. pyogenes* mastitis. Normal treatment was supplemented, as in Cases 4 and 5, by a single injection of 10 c.c. "Phenergan" intramuscularly. No apparent improvement was noted. This cow showed a marked subsequent response to "M & B 693" therapy.

SUMMARY

Many relatively similar cases of typed *S. aureus* and *C. pyogenes* mastitis have been given like treatments to those described. Previously normal treatment was based on the use of the appropriate toxoid plus penicillin intramammary, or penicillin sulphadimidine intramammary, together with the oral administration of formalin and nux vomica or general diffusible treatments. The authors have found that when large doses of "Phenergan" were given, *i.e.*, 10 to 15 c.c., repeated if necessary in six to 12 hours, an immediate, and in many cases spectacular, beneficial alteration of general systemic disorder was shown. Smaller doses, even if repeated several times, did not produce this result.

These findings correspond with those reported by Sweet *et al.* in 1949 (*Cornell Veterinarian*. **29.** 4, 353) in illustrating that the toxaemia in many cases of acute mastitis may be due to histamine secretion as well as bacterial infection. We find, however, that antihistamine therapy does not seem to influence the end result so far as recovery of the infected udder is concerned—this showing only the normal response to usual therapeutic measures.

Acknowledgment.—The writers wish to thank Messrs. May & Baker Limited for a supply of "Phenergan" enabling them to undertake a wider clinical trial.

farm workers in England and Wales are immune to this type of infection.† Eradication of bovine tuberculosis would deal with this danger to human health—a danger that should not be overlooked by veterinary surgeons. It is gratifying that the process of "area eradication" has begun in Britain, and it is to be hoped that other workers will be encouraged to carry out similar investigations to those reported by Dr. McKay.

†CUTHILL, L. J., & LYNN, A. (1944.) *Brit. med. J.* **i.** 283.

ANNUAL REVIEW AND FIXING OF FARM PRICES, 1951

In the course of an announcement to a Press conference regarding this recently issued White Paper, the Minister of Agriculture said that he was afraid that a feeling had developed among farmers that the present emphasis on meat production meant that the Government were now less concerned about the maintenance of a high level of tillage. This was very far from being the case, as a high tillage area was needed to feed the livestock, especially the pigs and poultry, which ate little or no grass. Pigs, of course, gave the quickest increase in meat supplies. Supplies of imported feeding-stuffs were dear, scarce and precarious, and it was in their own interest that the industry should continue to grow the maximum acreages of corn and other suitable feed crops. The Government would like farmers who grew more feeding grain than they needed to sell the surplus for the benefit of small farmers who could not grow enough for their needs.

There had been some criticism of the new prices for milk on the grounds that when farmers increased production and reached the target, they were immediately penalised for doing so. "Penalised" was hardly the right word. The new milk price was not inadequate if account was taken of the production bonus, quality premiums, higher prices for fat cows, etc. There had not been a drastic reduction in the profitability of milk production. In any case the criticisms seemed to him to miss the point. Milk production had not merely reached the target but had much exceeded it, and if we continued profitability at the same level there would no doubt be still more milk produced. The subsidy payments falling on the Ministry of Food to dispose of the milk, already reached the frightening level of about £80,000,000, exclusive of welfare milk.

Although there was no oversupply of eggs this spring, largely because of the weather, the annual output of eggs had about reached the 1952-53 target and here again they wanted to check the rate of expansion, so they had transferred some of the profitability of egg production to pigs.

ABSTRACT

[**Further Observations on the Seasonal Variation in Worm Egg Output in Scottish Hill Sheep.** MORGAN. *et al.* (1950.) *J. Helminthol.* **24.** 101–122.]

The authors studied, by means of egg counts done by their own method of using the McMaster slide, the strongyle worm-burden of nearly 1,500 sheep on hill farms in various parts of southern Scotland. Most of the sheep were of the Scottish Blackface breed, but some were Cheviots. All samples of the faeces were taken from the rectum.

The earlier work on this subject, here summarised by the authors, records, in various countries, a marked increase of egg production by the worms during the spring and the authors also found this. In the adult sheep, aged two years or older, the lowest level of egg production occurred during the winter and was followed by a marked increase in the spring, which reached its peak at about the end of May or in the early part of June. This was followed by a fall towards the end of the year.

The younger sheep, however, showed, during their first year of hill life, greater variability and higher egg counts. Sometimes the spring peak was absent. Further work is needed to give a clear picture of the rate of worm-infestation in hill lambs from birth to six months of age, but probably there is a more or less gradual increase from birth in April until early autumn, often followed by a fall towards the end of the year.

At the age of about a year there is often a high increase of the egg production. In some individuals this may occur during the preceding January, with a fall to a low level in June. The authors suggest that at this age the sheep have not acquired the more stable resistance shown by the older sheep and that they are more susceptible to adverse conditions. The first winter on the hills may have severe effects and for this reason the young sheep are often wintered on low ground. It is during the first months of the year that "black scour" caused by species of *Trichostrongylus* usually occurs.

The flocks studied were widely scattered over southern Scotland and the authors think that the seasonal pattern of egg production does not vary significantly in the different localities. The literature records a spring increase of egg production in countries with widely different climates (England, Germany, Norway, the United States, Australia and New Zealand) and in sheep managed by widely different methods. Weather conditions may influence the degree and duration of the spring peak of egg production, bad weather increasing it and good weather lowering it in relation to the average.

G. L.

R.S.I. BENJAMIN WARD RICHARDSON LECTURE

"The Report of the Interdepartmental Committee on the Inspection of Meat," will be the subject of the Benjamin Ward Richardson Lecture to be given by Mr. G. R. Oake, Chairman of the Interdepartmental Committee on the Inspection of Meat, at the Royal Sanitary Institute on Wednesday, June 20th, 1951, at 2.30 p.m. Sir Wilson Jameson, G.B.E., K.C.B., M.A., M.D., F.R.C.P., D.P.H. (Vice-President), will be in the chair. [Announcement of the issue of this Report is made as we go to Press.—*Editor.*]

* * * * *

WEEKLY WISDOM

Advice, unlike a good many things in life, is more easily given than taken.—"The Times."

QUESTIONS AND ANSWERS

The submission of questions for inclusion in this column will be welcomed; they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address. It is regretted that consideration cannot be given to questions for which solely a private reply is required.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Stilboestrol Therapy in Anoestrus

Q. 391.—*I have experienced several cases recently where the intramuscular injection of stilboestrol dipropionate solution in Guernsey cattle showing anoestrus has been followed by either an increased milk yield in the case of animals already lactating or by milk secretion in maiden heifers similar to the results of stilboestrol implants. Is this a common feature of stilboestrol therapy applied to the Guernsey breed and is there any other oestrogenic drug that may be used to avoid such a complication?*

A.—The respondent knows of no data which indicate that Guernsey cattle are more susceptible to the lactogenic or galactopoietic effects of oestrogens than are other breeds. Moreover, in view of the wide individual differences seen within a breed, any such conclusion would have to be based on results obtained in considerable numbers of animals. The questioner does not state the dose of stilboestrol dipropionate used, nor does he indicate the efficacy of the treatment so far as anoestrus was concerned. While the physiology and pharmacology of the common oestrogens, both natural and synthetic, are similar, their action can be prolonged considerably by injecting them in the esterified form, *i.e.*, as the dipropionate, the dibutyrate, etc., etc. This fact was indeed used by Parkes and Glover in 1944 (*J. Endocrinol.* **4.** 90) to induce lactation in heifers by a *single* injection technique. It is therefore possible that the questioner might eliminate the side effects of the oestrogen on the mammary gland by using free stilboestrol in oil instead of the dipropionate, while maintaining any beneficial action of the oestrogen on anoestrus.

* * * * *

Auscultation Finding in Toxaemic Bovine

Q. 392.—*Can you explain the cause and enlarge on the significance of the following phenomenon?:—In the acutely toxic bovine one can often auscultate what appears to be a pulse, synchronous with the heart sounds, which can be heard over the whole area of the chest wall on both sides and often over a large area of the flanks. This sound may be quite marked, even when the pulse is fast and weak in character.*

A.—In cattle suffering from acute toxaemia dehydration is relatively rapid. The effect of this dehydration on the skin, subcutaneous tissues and muscles of the chest and abdominal walls is to transmit heart sounds from the cardiac area over a large area of the chest and abdominal walls. This appears to account for the fact that even a weak heart beat is appreciable on auscultation at sites far removed from the cardiac area itself—in fact, the heart beat may often be heard by placing the ear, stethoscope or phonendoscope over the buttocks.

* * * * *

Car Sickness in Dogs

Q. 393.—*A dog is very car sick. Gastric and general sedatives delay but do not prevent profuse vomition and salivation. Is there any other procedure which might usefully be tried? Is it possible that regular and frequent car travel might condition the dog to avoid this trouble?*

A.—The questioner does not mention which sedative drugs have been tried. The respondent finds that the vast majority of dogs which are car sick respond well to chloretone, grs. 2 to 5 according to size, administered a half to one hour before the start of the journey. Chloretone appears to have some specific depressant action on the vomiting centre in the dog. Another useful measure is the administration of glucose about one hour prior to the journey. The psychological approach may be helpful in an attempt to make the dog associate car travel with some particular pleasure, *e.g.*, an interesting walk after a short car ride; many car-sick dogs learn to associate the car with feeling ill and will commence to salivate as soon as it is indicated to them that they are going in the car; long before the journey actually starts they are in a state of profound nausea; even in these chloretone may give spectacular results. One case recently has been encountered in which the dog can travel by night but is car-sick by day, suggesting that it is the visual stimulus which provokes nausea; making the dog travel on the floor or in a box might be helpful in such a case.

The human travel sickness remedies containing hyoscine seem to be of relatively little value in the dog.

* * * * *

Correspondence

"Mad Staggers" (?) in Horses

Sir,—I was somewhat "staggered" myself to read in *The Veterinary Record* of May 12th (No. 19. Vol. 63. page 347) that the only reference to the above subject in the 1923 edition of G. H. Wooldridge's Encyclopaedia is that by Sir A. Theiler in his contribution on African horse-sickness. Certainly that is the only instance in which it is given in the index—an unfortunate slip up in indexing. So-called mad staggers, whatever is the primary cause, is obviously associated with acute brain disturbance and it is surprising that the writer of the article in reply to Q. 388 omitted to refer to the text on acute or arterial congestion of the brain on page 408 of the 1923 edition. It is there stated in a fairly long article that "on account of the exaggerated movements produced the condition is often called . . . in horses 'mad staggers'." The enquirer may possibly gain a little information on the subject if he reads that article, or the corresponding one in the 1934 edition page 610. In that later edition the term "mad staggers" is duly indexed, and it is somewhat unfortunate that the writer of the reply in the *Record* limited his reference to the older and not to the later edition.

Yours faithfully,

2, Sherwood Road, Geo H. Wooldridge.
Hendon,
London, N.W.4
May 13th, 1951.

Prevention of Foot Rot in Cattle

Sir,—*Re* "Questions and Answers": "Prevention of Foot Rot in Cattle"—H. C. Watson's letter in your last issue is of great interest.

While Veterinary Officer at the Singapore Dairy Farm, I also came to realise the fundamental importance of sound feet in the dairy cow in the tropics.

In Singapore the condition appeared mainly to be a true foot rot resulting from irregular overgrown claws with breakdown of horn and under-running with putrefying material, etc.

I had no spectacular success with sulphapyridine soluble, solupyridine or sulphamezathine as seen here in the treatment of foul-in-the-foot, but perhaps their use prevented or lessened systemic symptoms. The condition always responded to trimming of the claws, paring out of the sole to provide drainage and dressing with strong iodine, tar, etc.

I can recall only one out of these numerous cases which resembled our text-book "foul-in-the-foot"—with sudden onset, very marked drop in milk-yield, almost complete inappetence, and serum exuding from a reddened area at the coronet, with intense pain and lameness. This finally responded to treatment after a track was opened up (found after several drastic parings-out of the sole) so relieving an abscess between the horn and matrix. (Would one find such an abscess in true foul-in-the-foot?)

It seemed to me that a large measure of success in preventing foot cases in Singapore would be achieved if every animal's feet were examined as a routine and kept trimmed, neat and balanced and cleaned out as frequently as possible. Working on these lines we were beginning to see results, but had still quite a deal of leeway to make up on badly overgrown feet before establishing a routine. The use of copper sulphate foot baths might only be really effective as an adjunct to the above. Some success also seemed to follow on instructing the barn-boys when spraying down the cattle (as a refresher in the heat of the day) to pay particular attention to cleaning the feet and to direct a strong jet all over them. This was designed mainly to prevent maggot infestation which used to be very common, especially just in front of the inter digital space, but appeared beneficial to the foot in every way. Although at first I doubted the wisdom of wetting the feet more than was necessary, as it seemed to be effective I concluded that in a trimmed, symmetrical foot it was beneficial as the jet removed dung, etc., and the water drained away as there were no crannies for it to lodge in. After spraying, dry sawdust bedding was put down and the feet were automatically dusted with it at the same time, thus helping to dry them.

Taking a longer view, particular attention could perhaps be paid to the type and condition of feet when purchasing replacements; and in breeding in the tropics I thought it would be worth while to consider the history of the feet. (Incidence among locally bred European did appear rare, but they were mainly calves and young stock. I have no knowledge of the local cattle.)

To some extent a majority of the cases seemed to occur in the court-system (wetter and dirtier under-foot than the tie-up system). I did not observe the cases to be most numerous in recently imported cattle, whereas many of the older cows had a history of recurrent feet trouble.

Yours faithfully,

26, Lichfield Road, Wm. Corrigall.
Stone,
Staffs
May 15th, 1951.

ROYAL COLLEGE OF VETERINARY SURGEONS

Animal Management Examination

List of Successful Candidates

(*Continued from page 380*)

Glasgow :

Armour, William
Berger, Fishel
Broadfoot, W. S.
Calder, Miss S. M. S.
Stewart, G. H.

Dublin :

Abrahamson, D.
Ballesty, J. J.
Broderick, T. I.
Cox, Edward
Deboys, D. C.
Fenlon, P. J.
Flavin, M. J.
Fleming, A. R. (Credit)
Foley, J. E.
Goold, M. C. (Credit)
Gordon, James
Guerin, W. A. (Credit)
Hally, W. P.
Hannan, John
Harboard, R. S.
Hartigan, P. J.
Keane, P. A.
Kent, Martin (Credit)
Littlewort, M. C. G.
Lynch, J. J.
Mackessy, E. J.
McDonald, P. J.
McInerney, J. F. (Credit)
Nolan, J. J.
O'Brien, M. W.
Rhatigan, P. J.
Sheridan, J. J.
Smyth, L. J. F.
Strickland, K. L. (Credit)
Taylor, B. O'C. (Credit)
Tuite, Michael
Twomey, Thomas
Tynan, A. R.

(*Concluded*)

Pharmacology, etc., Examination

Dublin :

Byrne, J. G.
Chapman, W. R.
Deeney, E. E.
Dowling, J. P.
Driscoll, Cornelius
Flanagan, W. J.
Gallery, G. J.
Gilchrist, E. W.
Gray, R. F.
Hatch, Charles
Hurley, T. M.
Johnson, R. E.
Kelly, Jeremiah
Linton, J. A. M.
McAuley, B. F.
McCarthy, James
McGrath, M. J.
Mooney, F. M.
Moscow, J. R.
O'Hara, D. P.
O'Rourke, Daniel
Quirke, J. M.
Toolan, G. A.
Tubridy, T. J.
Walshe, P. D.

(*Concluded*)

VICTORIA VETERINARY BENEVOLENT FUND

Meeting of Council

A meeting of the Council of the Victoria Veterinary Benevolent Fund was held at No. 10, Red Lion Square, London, W.C.1, on Tuesday, April 24th, 1951, when the following members were present:—Lieut.-Col. P. J. Simpson (President) in the chair, Mr. Horace Bell, Professors J. B. Buxton, J. McCunn, Mr. Arnold Spicer, Mrs. Evelyn B. Wooldridge and Professor G. H. Wooldridge. Mr. C. W. Francis, Secretary, was in attendance.

Minutes.—The minutes of the previous meeting held on January 25th, 1951, having been printed and circulated, were taken as read and signed as correct.

Apologies for Absence.—Apologies for absence were received from Mrs. D. I. Glover, Professor R. E. Glover, Capt. T. M. Mitchell, Professor L. P. Pugh, Mrs. Alex. Thomson (President, Ladies' Guild), Capt. A. Whicher, Dr. W. R. Wooldridge and Major W. H. Wortley.

CORRESPONDENCE.—(*a*) A letter to the Treasurer from Messrs. Tyas & Son, solicitors acting in the estate of Miss R. G. Robinson, deceased, late of Birdwell, nr. Barnsley, enclosing cheque for £200 which the Trustees had decided to give to the Fund—being in their opinion a suitable and deserving charity—out of the residuary estate, was read.

The Secretary pointed out that the communication was signed by Mr. Wilfrid Bullock, son of the late Dr. Fred Bullock, to whom an appreciative letter of thanks had been sent.

(*b*) The Secretary reported the receipt of a letter from Messrs. Ballantyne, Clifford & Co., solicitors, enclosing cheque for £50 bequeathed to the Fund by Mr. H. R. Napp, deceased, of Walton-on-Thames.

D. B. RODGER ESTATE.—The Secretary informed the meeting that the residue of the estate, reference to which was made at the Council Meeting in June last, has now been received from Messrs. M. F. Dunlop, Sons and Boyd, solicitors, and amounted to £1,174 0s. 1d.

INVESTMENTS.—The Treasurer reported that he had made the following investments during the quarter:—

(*a*) *D. B. Rodger Estate.*—The purchase of £1,871 4s. 5d. 2½ per cent. Consols at a cost of £1,269 4s. 5d., being a legacy of £95 4s. 4d. received in 1932 and the residue of £1,174 0s. 1d., referred to earlier by the Secretary.

The Treasurer proposed that this investment should appear in the balance sheet as "The D. B. Rodger Legacy."

(*b*) *Wortley Axe Fund.*—The balance standing in this account at December 31st, 1950, as disclosed by the audited accounts and amounting to £221 6s., had been invested in the purchase of £221 11s. 8d. 2½ per cent. Funding Loan, 1956-61, and added to the existing capital in this Government Stock.

It was resolved:—"That the action of the Treasurer be approved and that effect be given to his recommendation regarding the D. B. Rodger investment."

(*c*) *Hunting Trust Fund.*—The Secretary to the Trustees reported that the Trustees of the Hunting Trust Fund had invested in the name of the Trust the special cash distribution from the Northern Petroleum Tank Steamship Co., amounting to £258 15s., as shown in the Trust's balance sheet for the year ended December 31st, 1950, in the purchase of £272 16s. 6d. 3½ per cent. Conversion Stock.

ACCOUNTANT'S REPORT

The following report of the Accountant was read and adopted:—

Since the previous Quarterly Meeting of Council the following legacies, donations and special subscriptions have been received:—

	£ s. d.	£ s. d.
Legacies		
D. B. Rodger Trust—residue of estate...	1,174 0 1	
H. R. Napp	50 0 0	
Miss Rebecca Guest Robinson	200 0 0	
		1,424 0 1
Collecting Boxes		
Central Veterinary Society	9 7 0	
East Midlands Division	2 5 0	
Veterinary Investigation Officers' Congress...	3 0 0	
		14 12 0
Anonymous		10 10 0
"A.W."		0 10 6
Eastern Counties Veterinary Association		10 0 0
J. B. Edwards (Life Membership Donation)		10 10 0
"In Memory of Mrs. Mary King" (20 Donations in lieu of flowers)		33 16 0
National Greyhound Racing Club		10 0 0
North of Ireland Veterinary Medical Association ...		10 10 0
Royal (Dick) Veterinary College Students' Representative Council (profits from Annual College Ball)		21 0 0
Wellingborough and District Canine Society (per J. B. Edwards)		2 2 0
Western Counties Veterinary Association		2 2 0
Yorkshire Veterinary Medical Society		5 5 0
		£1,554 17 7

It was resolved:—"That the Council's warm thanks be conveyed to the respective donors."

LIFE MEMBER.—It was unanimously resolved:—"That Mr. J. B. Edwards, M.R.C.V.S., be elected a Life Member of the Fund."

CASES

No. 271, ——, M.R.C.V.S., aged 50. The Secretary informed the Council that a letter had been received from this recipient stating that he had been offered a temporary veterinary appointment and that he was commencing his duties in the second week of April.

It was resolved:—"That the grant in this case be discontinued after the April payment."

No. 272, widow, aged 53. Mother of young M.R.C.V.S., killed in motor accident soon after qualifying.

The Executive Committee reported that they had discontinued the allowance in this case from the end of April following the receipt of a reply from the recipient, in response to two inquiries from the Secretary, which disclosed that a County Council grant of £168 per annum was being received in connection with her daughter's medical studies.

It was resolved:—"That the action of the Executive Committee be approved."

No. 275, widow, aged 45. Two children, aged 16 and 14, both at school. The Secretary stated that the Executive Committee, having considered Mrs. E. B. Wooldridge's report on her visit to this case on February 27th last, decided that the present grant be continued until the April Quarterly Meeting of Council.

After hearing further details from Mrs. Wooldridge in connection with her visit, it was resolved:—"That the action of the Executive Committee be approved and that authority be given for the continuance of the grant."

The President warmly thanked Mrs. Wooldridge for undertaking this visit which had proved so helpful in the deliberations on this case.

(Concluded at foot of col. 2, page 394)

QUARTERLY MEETING OF COUNCIL, N.V.M.A.

Summary of Proceedings

The Quarterly Meeting of Council, N.V.M.A., was held at the Connaught Rooms, Great Queen Street, London, W.C.2, on Wednesday, April 18th, 1951.

Applause greeted the announcement that membership of the Association now stood at 3,601 which constituted a new record.

The South-East Midlands Veterinary Association, covering Northamptonshire and parts of Leicestershire, Warwickshire and Buckinghamshire, was recognised as a Division of the N.V.M.A.

Organising Committee

Civil Defence duties of veterinary surgeons had been the subject of correspondence with the Ministry of Agriculture, and consideration of such duties had engaged the attention of this Committee for some time. Information is being sought from the American Veterinary Medical Association and the R.A.V.C. with a view to ensuring that the profession would be able to play its part to the full should the occasion arise.

A Sub-committee has been formed to investigate the whole question of examination at dog shows in conjunction with a Sub-committee of the Kennel Club, as suggested by the latter.

Parliamentary and Public Relations Committee

Animals Anaesthetic Act, 1919.—A Sub-committee reported that, in its opinion, in view of advances in the technique of anaesthesia this Act requires revision; accordingly, discussion will take place with both the R.C.V.S. and the Ministry of Agriculture with a view to obtaining suitable amendments.

Veterinary State Medicine Committee

In view of the reduction of veterinary inspection of dairy herds the fear was expressed that the calfhood vaccination scheme might suffer, and the Committee recommended that the Ministry of Agriculture do its best to publicise this scheme in the interests of livestock owners.

The Report of the Anglo-American Productivity Council on Meat Packaging was noted with appreciation because of the emphasis placed on the rôle of the veterinary surgeon in the production of clean food.

Home Appointments Committee

The Committee learned from the President of the Association of State Veterinary Officers that an offer for the revision of salaries of the D.V.O. and comparable grades had been received, and that Association regarded these revised scales as disappointing. The Committee reiterated its willingness to give its support to the A.S.V.O. in this matter if, and when, requested.

General Purposes and Finance Committee

A Liaison Committee with the Milk Marketing Board has been appointed with the following terms of reference:—

"To consider the position of the veterinary profession in relation to the application of artificial insemination in Great Britain and its future development, with a view to ensuring that the profession makes its maximum contribution to the efficient progress of this method of cattle breeding."

Dr. W. R. Wooldridge has been appointed, in a personal capacity, to serve on the Poultry (Stock Improvements) Advisory Committee of the Ministry of Agriculture for a further three years.

Annual Report.—A draft of the Annual Report and Statement of Accounts was submitted and with the suggested alteration in the position of the Agenda approved for issue to the Members before the Annual General Meeting.

Date of Next Meeting.—It was agreed that the date of the next Quarterly Meeting of Council be left in the hands of the President.

Editorial Committee

The appointment was announced of a small Sub-committee to consider and report upon the contents and mode of presentation of material in *The Veterinary Record*.

Overseas Committee

Both the Nigerian Livestock Mission Report and the Gambia Poultry Scheme of the Colonial Development Corporation had been discussed by this Committee. Exception was taken to the failure of those concerned to accept veterinary advice in the planning stages of the Gambia Scheme, while it is considered imperative, in the interests of the Nigerian Veterinary Department and indeed of the whole Colonial Veterinary Service, that the fallacies in the Mission's Report should be refuted and the capabilities of the profession in this sphere of livestock development stated authoritatively. The Officers and the Chairmen of the Parliamentary and Public Relations and the Overseas Committees are to endeavour to secure Parliamentary action on these matters in the best interests of the profession.

The Eastbourne Congress

The last report before Council was that of the Provisional Committee on the Annual Congress to be held at Eastbourne this year. It is confidently expected that Congress again will be a resounding success as not only are the papers to be delivered by speakers of distinction in their own particular fields, but also much more time is being allowed for general discussion. Suitable facilities will be available at Eastbourne for small-animal demonstrations, while large-animal surgery will be demonstrated at Frant. A full social programme has already been arranged and should, as always, prove one of the most attractive features of the Congress.

The meeting terminated with a vote of thanks to the Chair, which was carried with acclamation.

NOTES AND NEWS

Diary of Events

June 5th.—Fifth in the series of Almroth Wright Lectures. The Wright-Fleming Institute of Microbiology, St. Mary's Hospital Medical School, London, W.2: R. Lovell, D.Sc., M.R.C.V.S. (Royal Veterinary College), "Infection and Resistance in Young Animals," 5 p.m.

June 6th.—108th Annual General Meeting of the Royal College of Veterinary Surgeons at 10, Red Lion Square, London, W.C.1, 12 noon.

June 6th.—Annual General Meeting of the Victoria Veterinary Benevolent Fund, at 10, Red Lion Square, London, W.C.1—immediately following the above.

June 6th, 7th and 8th.—Meetings of Committees and Council, R.C.V.S., at 10, Red Lion Square, London, W.C.1.

June 7th.—R.A.V.C. Golfing Society Meeting. (See Notice.)

June 8th.—Annual Dinner of the R.A.V.C. Officers Club, Grosvenor House, London.

June 8th.—Meeting of the North of Ireland Division, N.V.M.A., at Belfast (Queen's University), 7 p.m.

June 13th.—Meetings of Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1.: Executive 1.30 p.m.; Main Committee 3 p.m.

June 13th.—Meeting of the Scottish Metropolitan Division, N.V.M.A., at Perth (Station Hotel), 2.15 p.m.

June 13th.—Meeting of the South-East Midlands Division, N.V.M.A., at Weybridge. (See Notice.)

June 14th.—Meeting of the Western Counties Division, N.V.M.A., at Exeter (Imperial Hotel), 2 p.m.

June 16th.—Meeting of the Biochemical Society in the Department of Physiology, The Medical School, Hospitals Centre, Birmingham, 1.45 p.m.

June 21st.—Summer Meeting of the Herts and Beds Division, N.V.M.A., to be held at Whipsnade. (See notice in later issues of *The Veterinary Record*.)

Sept. 23rd-29th.—Sixty-ninth Annual General Meeting and Congress of the National Veterinary Medical Association, at Eastbourne.

N.V.M.A. Meetings in Edinburgh

Wednesday, July 11th:
11 a.m. Home Appointments Committee.
2 p.m Organising Committee.
4 p.m. Parliamentary and Public Relations Committee.
Thursday, July 12th:
11 a.m. Veterinary State Medicine Committee.
2 p.m. General Purposes and Finance Committee.
Friday, July 13th:
11 a.m. Council.

R.C.V.S. Examinations

Thursday, June 7th.—D.V.S.M. Written Examinations commence at Edinburgh.
Monday, June 11th.—D.V.S.M. Oral Examinations commence.
Thursday, June 21st.—M.R.C.V.S. Written Examinations.
Friday, June 22nd.—M.R.C.V.S. Written Examinations.

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PERSONAL

Birth.—Mortimer.—On May 26th, 1951, to Joy, wife of Donald Mortimer, M.R.C.V.S., at Candler's Nursing Home, Harleston, a brother for Peter.

. . . . . .

Commonwealth Fund Fellowship.—Dr. Stephen Frank Barnett, B.SC., M.R.C.V.S., Veterinary Research Officer, Kenya, has been awarded a Dominion and Colonial Civil Service Fellowship of the Commonwealth Fund, for the study of veterinary science in the United States.

. . . . . .

Holiday in Norway.—The Association has been asked if it knows of any veterinary surgeon who would like to send his son to spend a holiday in Norway, and who in return would have a Norwegian boy to stay with him in Britain during the summer holidays this year. The Norwegian boy's vacation lasts from June 23rd to about August 20th. He is the son of Dr. John Teige, whose address is at the Norwegian Veterinary School, Oslo. The family, however, consists of Dr. Teige, his wife and two sons, and they live in the country on Lake Mjösen, 100 miles from Oslo. The Norwegian boy is 14 years old. Would any member interested in this suggestion please write direct to Dr. J. Teige, Norges Veterinaerhögskole, Ullevalsvn, 72, Oslo, Norway.

* * * * *

R.C.V.S. OBITUARY

Baxter, Robert Charles, The Hollies, Downham Market, Norfolk. Graduated London, July 13th, 1899. Died May 27th, 1951.

* * * * *

LEGAL NOTES

The Supplementary Veterinary Register : Appeals Disallowed

On April 26th, 1951, a Divisional Court of the King's Bench Division heard two further appeals against refusal of the Council of the Royal College of Veterinary Surgeons to register two applicants in the Supplementary Veterinary Register. The verbatim report is given of Lord Goddard's judgment in the first of these appeals, by Mr. Samuel John Silver, of Silvernia Kennels, Broadgreen, Liverpool, 14.

In the second appeal, that of Mr. Charles W. Williamson, of 55, Lowfield Street, Dartford, Kent, the Court referred to the judgment given in the first appeal, and had very little to add in coming to the same conclusion as that given in the first appeal, namely, that the action of the Council in refusing both these applications was justified.

Judgment

The Lord Chief Justice: This is an appeal against a decision of the Council of the Royal College of Veterinary Surgeons, refusing to put the Appellant, who is unqualified by examination, on the Supplementary List. We have called attention already, in a recent case,* to the somewhat unsatisfactory position with regard to the indication given to us as to what the duty of this Court is. The Appellant has to satisfy the Council of the Royal College of Veterinary Surgeons upon certain matters in addition to his character. There is no suggestion against the Appellant's character. He has to satisfy the Council "that during the ten years immediately preceding the application he has for a period of not less than seven years in the aggregate been engaged in the United Kingdom as his principal means of livelihood in diagnosing diseases of animals and giving medical or surgical treatment to animals." Then, it is also provided that "where, on an application thereunder, it appears to the Council that the applicant was during the relevant period engaged as his principal means of livelihood wholly or mainly in the giving of treatment or the performing of operations specified in the First Schedule to this Act, the Council may refuse the application."

The matters specified in the First Schedule of the Act are the giving of what I may call more or less domestic treatment. "Any treatment given to an animal by the owner thereof, by another member of the household of which the owner is a member, or by a person in the employment of the owner, or of any other member of such a household. Anything done, otherwise than for reward, by a person engaged or employed in agriculture, as defined in the Agriculture Act, 1937, to an animal owned (whether by himself or by another person) for the purposes of agriculture, as so defined. The rendering in an emergency of first aid for the purpose of saving life or relieving pain. The destruction of any animal by painless methods," and the performance of a number of minor operations which are set out.

Then it is provided: "Where the Council refuse an application for registration under this Section made within the time limited by or under the last foregoing sub-section, they shall state the reason for the refusal and the applicant may in accordance with the Rules of Court appeal to the High Court, and the High Court may confirm or reverse the decision of the Council."

Of course, it is a jurisdiction to be exercised with very considerable care, because the professional body which is entrusted by Parliament with the duty of registering or putting on to the Supplemental Register has a duty to perform according to their knowledge and so forth of these matters. Certainly, we should not interfere lightly with their discretion. We allowed an appeal the other day because, in that case, the Veterinary Council had before them certain information which we thought was not satisfactory, and which might have justified them in refusing the application. In that case, they had not given—as there is no obligation upon them to give—a hearing to the person who applied. There is nothing in the Statutory Rules to provide for it, although they very often do, as they have done in this case; but in the particular case to which I am referring, much stronger evidence was submitted to us, uncontradicted evidence by a large number of people, which showed that the applicant in that case had been engaged in a substantial veterinary practice. He had not merely been attending to cats, dogs, rabbits and so forth, but had been giving a very considerable amount of attention to other animals, and there were other matters in that case which we thought showed that the College had allowed themselves to be influenced in coming to their decision by matters which we thought were not strictly relevant; and accordingly, we allowed the appeal.

In this case, we cannot possibly say the Council were wrong. In fact, speaking for myself, I am not surprised that they refused this application. I do not think anything like a strong enough case has been made out by the Appellant. It is impossible for this Court to interfere with the discretion exercised by the Council, and accordingly, in my opinion, this appeal fails.

Mr. Justice Croom-Johnson: I agree, and have nothing to add.

Mr. Justice Streatfeild: I also agree.

The appeal, accordingly, was dismissed with costs.

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R.V.C. STUDENTS' UNION SOCIETY BALL

The 159th Annual Ball, held by the R.V.C. Students' Union Society at Grosvenor House, Park Lane, on Friday, May 11th, was even more successful than last year, although the support from members of the profession was rather disappointing.

Distinguished guests included Professor J. B. Buxton (Principal, Royal Veterinary College) and Mrs. Buxton, Mr. S. F. J. Hodgman (President, N.V.M.A.) and Mrs. Hodgman, Mr. H. Fenton (Master of the Worshipful Company of Farriers) and Mrs. Fenton, Professor and Mrs. G. H. Wooldridge, Dr. and Mrs. W. R. Wooldridge, Mr. A. Hobson (Secretary, Royal Agricultural Society) and Mrs. Hobson, and Mr. D. W. Logan (Principal, University of London) and Mrs. Logan.

The guests were received by Mr. D. A. Howell, President of the Students' Union Society, and Miss W. Tucker, Vice-President of the Women's Union.

Dancing continued until 2 a.m. to Ralph Wilson's Band. Radio stars Jack and Daphne Barker provided the cabaret.

It is hoped that next year more members of the profession will take the opportunity of meeting their colleagues at this enjoyable annual function.

* *Vet. Rec.* **63.** 352.—*Editor.*

ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

SWINE FEVER:

Bucks.—Valley Farm, 178, Chalvey Road, Slough (May 25th).

Cambs.—Raper's Field, Mill Road, Ashley (May 26th).

Cambs (*Isle of Ely*).—25, Norwood Road, March; Primrose Hill, Doddington (May 26th).

Chesnire.—Yew Tree Farm, Bulkley, Malpas (May 25th).

Hereford.—Woodhampton, Little Heretoru, Ludlow (May 21st).

Lanarks.—Phillips Hill Farm, Busby, Hamilton (May 26th).

Lancs.—Vine Tree Cottage, Catterall, Garstang (May 22nd); No. 1, Small Holding, Highfield Estate, Levenshulme; Piggeries at Fletcher Fold, Failsworth (May 26th).

Lincs (*Holland*).—The Bungalow, Whaplode Drove, Spalding; Bees Farm, Bees Lane, Whaplode Fen, Spalding (May 22nd), Leaveslake Farm, Leaveslake Drove, Spalding; Green Lane, Moulton-Seas-End, Spalding (May 21st).

Northumberland.—16, Lesbury Avenue, Shiremoor (disease on Council Allotments, Shiremoor, Seaton Delaval) (May 25th).

Suffolk (*E.*).—Botney Farm, Parham, Woodbridge (May 25th).

Warwicks.—Hollow Oak Farm, Corley, Coventry (May 23rd).

Yorks (*E.R.*).—15, Cottage Holding, Dunswell, Hull; Wausby Manor, Welton, Brough (May 25th); Mill Lane, Northend, Roos, Hull (May 26th).

Yorks (*W.R.*).—Carhouse Farm, Den Lane, Springhead, Oldham, Lancs (May 22nd); 39, Angel Street, Bolton-on-Dearne, Rotherham; Green Leach Farm, Srinesdale, Oldham; Bargate Tip Piggeries, Linthwaite (May 21st); 143, New Hey Road, E. Bowling (disease at piggeries at rear of 21, Brompton Avenue, E. Bowling, Bradford); 74, Cross Bedford Street, Sheffield, 6 (May 25th).

* * * * *

Sir Thomas Dalling at Opening of Jersey's Small-Animal Hospital

Sir Thomas Dalling, Chief Veterinary Officer of Great Britain and President of the Royal College of Veterinary Surgeons, was a welcome guest at the reception held by the Jersey Society for the Prevention of Cruelty to Animals at West Park Pavilion, Jersey, on May 16th, following the opening by the Lieut.-Governor, H. E. Sir Edward Grasett, and Lady Coutanche of the new small-animal hospital at the Animals' Shelter, St. Saviour's Road. Built in Jersey granite, it is an attractive and well-equipped block.

Addressing the gathering, which included Jurat Sir Daniel Cabot, former Chief Veterinary Officer in the United Kingdom, and Lady Cabot, the Bailiff, Sir Alexander Coutanche, in the name of the J.S.P.C.A. thanked Sir Edward Grasett for his presence, and welcomed the President of the Royal College of Veterinary Surgeons. Sir Alexander recalled that this was the third time in about 15 years that he had been present at the opening of permanent buildings forming their hospital, and he felt that the thanks of the people of Jersey should be extended to Dr. Marett, the Executive Officials and to Mr. H. E. Stephens, Manager and Secretary, for making this permanent addition possible.

Sir Edward, who regarded it as a very great privilege to open the animals' new hospital, said that he had been told that it was second to none in the British Isles, and he paid tribute to the late Mr. Bowring, who to a large extent had made this possible.

Sir Thomas, who was received with loud applause, referred to the use made of veterinary surgeons by similar organisations on the mainland and said how happy he was to see that good use of their services was being made over there.

Having congratulated the Society on its outlook, Sir Thomas felt that he should also congratulate those who had planned the type of buildings they now had. The animals were kept in their natural surroundings and this helped them to recover from their sickness, for no matter how good the surgical treatment they received they still had to have something more—adequate arrangements for nursing.

After referring to the fine example set by the Jersey Society, Sir Thomas ended his speech by expressing the hope that similar clinics would be opened not only in Great Britain and the British Empire but throughout the world.

Returning thanks to the speaker, His Excellency the Lieut.-Governor reminded the gathering that Sir Thomas was a very distinguished man in the United Kingdom and he would assure him of the esteem with which the veterinary surgeons of the Island were held by the owners of pets and farmers. He was delighted to hear of the very high standard of veterinary surgery in Jersey.

Also returning thanks to Sir Thomas, Dr. E. P. Marett (Vice-President of the J.S.P.C.A.) assured him that the Society were deeply grateful to him. On behalf of the Society, Dr. Marett also expressed their deep indebtedness to their honorary veterinary adviser, Mr. Blampied, and to Mr. Stephens for putting their plans into operation.

UNUSUAL OCCURRENCE AFTER CASTRATION

Mr. A. HART, M.R.C.V.S., of Ardnadan, Argyll, sends the following note:

In 1911 I called at a farm to castrate a two-year-old cart colt. Before I castrated it, the farmer allowed the colt to serve a mare.

I castrated the colt, administering chloroform in the standing position, and used the clam and cautery. When finished, I gave the colt a knock and to my surprise he got to his feet immediately and galloped across a field and jumped a hedge into another field where the mare was grazing, where he served her again.

I expected to have to deal with extensive haemorrhage but when the colt was caught and examined there was no sign of any blood.

If anyone had told me this tale I would have been inclined to doubt it, but "it happened to me."

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FIFTEEN ACRES FOR GOVERNMENT SLAUGHTERHOUSE

Bournemouth Corporation Health Committee has considered a report of an interview which took place recently between representatives of the Ministries of Food, Works, Agriculture and Fisheries, and of the Bournemouth and Poole Councils, on the question of the proposed provision of a new Government slaughterhouse in the Bournemouth or Poole areas. It was stated by the Ministry of Food representatives that an area of approximately 15 acres would be required, to include grazing land, the building taking up an area of approximately 1½ acres.

There are no suitable sites in the County Borough of Bournemouth, but it was agreed that Bournemouth would co-operate with Poole if the slaughterhouse could be sited there. The Poole representatives indicated a site in the neighbourhood of Hamworthy Junction which was considered suitable, and the representatives of the Ministries said they would have it surveyed shortly.—*Meat Trades Journal.*

* * * * *

Blood Brothers.—Outside the operating-theatre I found the patient's family waiting to see me. A husky red-faced man, making an obvious effort to look conventionally sad, stepped forward and whispered hoarsely, almost in my ear: "Sir, will you please tell me the truth about father? You see, I'm a butcher myself. . . ."—*The Lancet.*

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

AUREOMYCIN

Sir,—I was interested to read an abstract of the article "Aureomycin in the Treatment of Infectious Diseases of Bovines" by H. C. Lower (*N. Amer. Vet.* **31.** 800-805) in your issue of May 12th. The abstractor draws attention to the "wide potentialities of aureomycin in bovine practice when this drug becomes freely available at an economical price." I think that it should be emphasised that the cost of aureomycin by the intravenous route, as recommended by the author, is absolutely prohibitive in this country at present; also the drug is not yet available for general use. There is no doubt that aureomycin is going to play a very important rôle in veterinary practice at some future date, but at present the price and the very limited supplies restrict its use to the experimental field.

Yours faithfully,
E. C. HULSE.

Ministry of Agriculture and Fisheries,
Veterinary Laboratory, New Haw,
Weybridge, Surrey.
May 26th, 1951.

* * * * *

THE ECONOMICS OF VETERINARY PRACTICE

Sir,—Apropos your correspondent Mr Paul Crosfield's letter in the April 7th issue of *The Veterinary Record*, relating to the present-day's nett income, I trust that my friends would consider it as evidence of an accomplishment if my epitaph read:—"Has worked in all weathers, day and night, winter and summer, and in all gears"! And for those few folk who believed themselves to be reading the epitaph of a faithful equine friend I would terminate it with:—"He once cleared his over-draft"!

Yours faithfully,
ROBERT J. A. SWIFT.

12, Severn Street,
Welshpool.
May 21st, 1951.